

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MASAYA ITO, SEIJI MORI and TAKAYA YOSHIKAWA

Appeal No. 97-1156
Application 08/192,270 ¹

ON BRIEF ²

Before CALVERT, COHEN and ABRAMS, Administrative Patent Judges.

COHEN, Administrative Patent Judge.

DECISION ON APPEAL

¹Application for patent filed February 7, 1994. According to appellants, this application is a division of application Serial No. 07/987,186, filed December 8, 1992.

² This panel of the board acknowledges appellants' request for an oral hearing dated August 12, 1996. However, in accordance with 37 CFR 1.196(c), as amended effective December 1, 1997, we consider a hearing in this case to be unnecessary in light of the hearing that took place on June 11, 1998 in a related appeal in parent application 08/987,186 (Appeal No. 96-1651); this parent application being discussed by appellants on page 5 of the main brief (Paper No. 19). This appeal, therefore, will be decided on brief.

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This is an appeal from the final rejection of claims 30 through 48. These claims constitute all of the claims remaining in the application.

The invention on appeal relates to a ceramic-metal composite assembly. An understanding thereof can be derived from a reading of exemplary claim 30, a copy of which appears in "APPENDIX A" to the main brief (Paper No. 19).

As evidence, the examiner has relied upon the references listed below:

Ito et al. 1985 (Ito '704)	4,557,704	Dec. 10,
Ito et al. 1991 (Ito '085)	5,073,085	Dec. 17,
Yoshikawa et al. 1992 (Yoshikawa)	5,129,784	Jul. 14,
Oda et al. 1987 (Oda) (published European Patent Application)	250,118	Dec. 23,

The following rejections of the examiner are before us for review.

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Claims 30 through 48 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 30, 31, 35 through 39, 42, and 45 through 48, as best understood, stand rejected under 35 U.S.C. § 102(b) as being anticipated by Oda.

Claims 30 through 34 and 37 through 48, as best understood, stand rejected under 35 U.S.C. § 102(e) as being anticipated by Ito '085.

Claims 30 through 34 and 37 through 48, as best understood, stand rejected under 35 U.S.C. § 103 as being unpatentable over Ito '085.

Claims 30, 31, 35 through 37, 42, and 45 through 48, as best understood, stand rejected under 35 U.S.C. § 102(e) as being anticipated by Yoshikawa.

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Claims 30 through 32 and 37 through 48, as best understood, stand rejected under 35 U.S.C. § 102(b) as being anticipated by Ito '704.

The full text of the examiner's rejections and response to the argument presented by appellants can be found in the main and supplemental answers (Paper Nos. 20 and 22)³, while the complete statement of appellants' argument can be found in the main and reply briefs (Paper Nos. 19 and 21).

OPINION

In reaching our conclusion on the issues raised in this appeal, this panel of the board has carefully considered

³ We are informed by Paper No. 19 (page 5) and Paper No. 20 (page 3) as to an appeal in application Serial No. 07/987,186, the parent application of the present divisional application before us.

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appellants' specification and claims⁴, the applied teachings⁵, and the respective viewpoints of appellants and the examiner. As a consequence of our review, we make the determinations which follow.

The indefiniteness issue

We reverse the examiner's rejection of claims 30 through 48 under 35 U.S.C. 112, second paragraph, as being indefinite.

The examiner is uncertain as to whether a product *per se* or a process of making a product is being claimed, and specifically points to clauses (D) and (E) of claim 31, as well as claims 40 and 41 (Paper No. 20, page 4).

⁴ The claims on appeal, drawn to a ceramic-metal composite assembly, are claims of Group I, consistent with a restriction requirement in parent application Serial No. 07/987,186. These claims have also been indicated to be for the elected species of Figures 1A and 1B (Paper No. 5), in accordance with an election of species requirement (Paper No. 4).

⁵ In our evaluation of the applied teachings, we have considered all of the disclosure of each teaching for what it would have fairly taught one of ordinary skill in the art. See In re Boe, 355 F.2d 961, 965, 148 USPQ 507, 510 (CCPA 1966). Additionally, this panel of the board has taken into account not only the specific teachings, but also the inferences which one skilled in the art would reasonably have been expected to draw from the disclosure. See In re Preda 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

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At the outset, an understanding of certain language in independent claims 30, 31 and 38 is in order.

With respect to the language "being metallurgically joined" and "being mechanically joined" in the context used in claim 30, we note the propriety of functionally claiming something, i.e., a structure, by what it does rather than by what it is. See In re Hallman, 655 F.2d 212, 210 USPQ 609, 611 (CCPA 1981). Thus, we comprehend the aforementioned language in claim 30 as denoting the presence of metallurgical joining structure and mechanical joining structure, respectively.

Claims 31 and 38 include sixth paragraph (35 U.S.C. § 112) means plus function recitations. These recitations are construed to cover the corresponding structure described in the specification and equivalents thereof. Read in light of the underlying disclosure (specification, page 3), we understand these recitations as follows.

With respect to "metallurgical joining means", it is clear to us that this recitation denotes a joining structure effected by metallurgical (chemical) interaction between the claimed intermediate member and ceramic member. The specification informs us (page 3) that this joining structure can be effected by brazing, diffusion joining or welding, joining by the use of oxide, friction welding, hot pressing, and hot isostatic pressing.

As to the "mechanical joining means", we understand this recitation as denoting a joining structure effected by mechanical interaction between the claimed intermediate member and the metallic member. The specification (page 3) instructs us that this joining structure can be effected by press fitting, shrink fitting and fastening with bolts or screws.

In light of the above claim analysis, we understand the content of each of independent claims 30, 31 (with clauses (D)

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and (E) therein), and 38 to be clearly drawn to a product, i.e., a ceramic-metal composite assembly. The noted claims are therefore viewed as definite in meaning.

Turning now to the examiner's concern regarding claims 40 and 41, we are cognizant that the metallurgical joining means and the mechanical joining means are further defined therein as comprising "heating" and "press fitting", respectively. Simply stated, we understand this process language in the context of the product being claimed as denoting the resulting structure, i.e., a heated joining structure (claim 40) and a press fit joining structure (claim 41). See In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). Thus, dependent claims 40 and 41 are understood as setting forth further structural limitations and are definite in meaning.

The anticipation rejection based upon Oda

We reverse this rejection of appellants' claims under 35 U.S.C. § 102(b).

The examiner considers independent claims 30, 31, and 38,

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addressed to a ceramic-metal composite assembly, to be anticipated by the assembly shown in Figure 6 of Oda (main answer, pages 5 and 6).

We disagree with this conclusion. As we see it, the engine piston of Figure 6 of Oda clearly includes two mechanical joining structures, not the specific metallurgical joining structure and the mechanical joining structure encompassed by the claims. Under the present circumstances, it is evident to us that one versed in this art would not have fairly understood the term "press fitting" as inherently teaching a metallurgical joining process, as asserted by the examiner. In other words, the teaching of "press fitting" does makes certain, without question, that a metallurgical joining process is, in fact, an inherent characteristic of the Oda engine piston.

The rejections based upon Ito '085
under 35 U.S.C. §§ 102(e) and 103

We reverse the respective rejections of claims 30 through 34 and 37 through 48 under 35 U.S.C. § 102(e) as being

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anticipated

by, and under 35 U.S.C. § 103 as being unpatentable over, Ito '085.

As to the anticipation issue, we find that the Ito '085 patent, addressed to a ceramic turbocharger rotor, relies exclusively upon soldering or brazing (metallurgical joining means) for assembling the rotor parts together. Thus, Ito '085 lacks, at the least, mechanical joining means for joining an intermediate member to a metallic member, as required by independent claims 30, 31, and 38. It follows that Ito '085 is not an anticipatory reference within the meaning of 35 U.S.C.

§ 102(e). Further, in the matter of the obviousness issue, it is clear to us that the Ito '085 teaching of exclusive reliance upon soldering or brazing would not have been suggestive of any mechanical joining means, as claimed. Accordingly, the claimed invention would not have been rendered obvious under 35 U.S.C.

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§ 103 by the teaching of Ito '085.

The rejection based upon Yoshikawa

We reverse this rejection of claims 30, 31, 35 through 37, 42, and 45 through 48 under 35 U.S.C. § 102(e).

Simply stated, the feature of a mechanical joining of an intermediate member and a metallic member in a ceramic-metal composite assembly (independent claims 30 and 31), in particular, is not taught by Yoshikawa. Thus, the content of the rejected claims is not anticipated by the Yoshikawa disclosure.

The rejection based upon Ito '704

We reverse this rejection of claims 30 through 32 and 37 through 48 under 35 U.S.C. § 102(b).

The Ito '704 document may fairly be said to teach the joining of a ceramic turbine rotor shaft to a metal shaft either by the brazing of an intermediate buffer layer therebetween, as seen in Figure 2(b), or by end to end butt-

welding, as shown in Figure 3(a). Ito '904 simply fails to teach a mechanical joining of an intermediate member and a metallic member, a limitation of each of independent claims 30, 31, and 38. Thus, appellants' claims are not anticipated by the Ito '704 reference.

NEW GROUND OF REJECTION

Under the authority of 37 CFR 1.196(b), this panel of the board introduces the following new ground of rejection.

Claim 43 is rejected under 35 U.S.C. § 112, first and second paragraphs, as lacking descriptive support in the underlying specification and as being indefinite.

The specification (page 3) makes it clear that brazing by the use of specified materials and heating by the use of certain oxides are separate and distinct metallurgical joining means.

With the above in mind, the content of claim 42 appears to inappropriately encompass certain oxides for brazing which were originally disclosed only for heating. Thus, the language of claim 43 lacks descriptive support (35 U.S.C. 112,

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first paragraph).

Further, claim 43 is ambiguous in meaning. Is the "mixture" a component of the group from which a selection is made, or is the "mixture" an addition to the metal selected from the group? This ambiguity renders the claim indefinite (35 U.S.C. 112, second paragraph).

In summary, this panel of the board has:

reversed the rejection of claims 30 through 48 under 35 U.S.C. § 112, second paragraph, as being indefinite;

reversed the rejection of claims 30, 31, 35 through 39, 42, and 45 through 48 under 35 U.S.C. § 102(b) as being anticipated by Oda;

reversed the rejection of claims 30 through 34 and 37 through 48 under 35 U.S.C. § 102(e) as being anticipated by Ito '085;

reversed the rejection of claims 30 through 34 and 37 through 48 under 35 U.S.C. § 103 as being unpatentable over

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Ito '085;

reversed the rejection of claims 30, 31, 35 through 37, 42, and 45 through 48 under 35 U.S.C. § 102(e) as being anticipated by Yoshikawa; and

reversed the rejection of claims 30 through 32 and 37 through 48 under 35 U.S.C. § 102(b) as being anticipated by Ito '704.

Additionally, we have introduced a new ground of rejection pursuant to 37 CFR 1.196(b).

The decision of the examiner is reversed.

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)).
37 CFR

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§ 1.196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellants, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

REVERSED
37 CFR 1.196(b)

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Administrative Patent Judge)	
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